/\*

Name of the student: Amit Swami

Roll No:2221018

AssignmentNo:13

Assignment Title: Write C++ program to maintain club list.

Store student PRN and Name.Write functions to:

a)Add and delete the members as well aspres ident or even secretary.

b)Compute total number of members of club

c)Display members

\*/

#include<iostream>

#include<stdlib.h> //mustwritethisfileinlinkedlist

using namespace std;

class node

{

public:

int rollno;

char name[20];

node\*next;

};

class SLL

{

node\*head;

public:

SLL()

{

head=NULL;

}

void create\_head();

void display();

void insert\_front();

void insert\_middle();

void insert\_end();

void del\_front();

void del\_middle();

void del\_end();

void total\_count();

void reverse();

};

void SLL::create\_head() //functiontocreatenode

{

node\*new1;

new1=newnode;

cout<<"\nEnter rollno="<<"";

cin>>new1->rollno;

cout<<"\nEnter name="<<"";

cin>>new1->name;

new1->next=NULL;

head=new1;

}

void SLL::display() //functiontodisplaylinkedlist

{

node\*temp;

if(head==NULL)

{

cout<<"\nYour list is Empty.";

}

else

{

temp=head;

cout<<" List is as follows:="<<endl;

while(temp!=NULL)

{

cout<<temp->rollno<<""<<temp->name<<endl;

temp=temp->next;

}

}

}

void SLL::insert\_front() //functiontoinsertfromfront

{

node\*new1;

new1=newnode;

cout<<"\nEnter prn=";

cin>>new1->rollno;

cout<<"\nEnter name=";

cin>>new1->name;

new1->next=head;

head=new1;

}

void SLL::insert\_middle() //functiontoinsertatmiddle

{

node\*new1;

new1=newnode;

node\*temp;

intn;

cout<<"\nEnter prn after which member you want to insert=";

cin>>n;

cout<<"\nEnter prn=";

cin>>new1->rollno;

cout<<"\nEnter name=";

cin>>new1->name;

temp=head;

while(temp->rollno!=n)

{

temp=temp->next;

}

new1->next=temp->next;

temp->next=new1;

}

void SLL::insert\_end() //functiontoinsertfromend

{

node\*new1;

new1=newnode;

node\*temp;

cout<<"\nEnter prn=";

cin>>new1->rollno;

cout<<"\nEnter name=";

cin>>new1->name;

new1->next=NULL;

temp=head;

while(temp->next!=NULL)

{

temp=temp->next;

}

temp->next=new1;

}

void SLL::del\_front()

{

node\*temp;

temp=head;

head=head->next;

free(temp);

}

void SLL::del\_middle()

{

node\*temp,\*prev;

intx;

cout<<"\nEnter prn to delete member=";

cin>>x;

temp=head;

while(temp->rollno!=x)

{

prev=temp;

temp=temp->next;

}

prev->next=temp->next;

free(temp);

}

void SLL::del\_end()

{

node\*temp,\*prev;

temp=head;

while(temp->next!=NULL)

{

prev=temp;

temp=temp->next;

}

prev->next=temp->next;

free(temp);

}

void SLL::total\_count()

{

intcount=0;

node\*temp;

temp=head;

while(temp!=NULL)

{

count++;

temp=temp->next;

}

cout<<"\nTotal count="<<""<<count;

}

void SLL::reverse()

{

ints[20],top=-1;

node\*temp;

temp=head;

while(temp!=NULL)

{

top++;

s[top]=temp->rollno;

temp=temp->next;

}

cout<<"\nList in reverse order:"<<endl;

while(top>=0)

{

cout<<s[top]<<"";

top--;

}

}

int main()

{

SLL ob;

int ch;

while(1)

{

cout<<"\nMenu:"<<endl;

cout<<"1.To enter prn and name of president"<<endl;

cout<<"2.To enter prn and name of member at front"<<endl;

cout<<"3.To enter prn and name of member at middle"<<endl;

cout<<"4.To enter prn and name of member at end"<<endl;

cout<<"5.To delete prn and name of member from front"<<endl;

cout<<"6.To delete prn and name of member from middle"<<endl;

cout<<"7.To delete prn and name of member from end"<<endl;

cout<<"8.To find total count of member"<<endl;

cout<<"9.To Reverse the list of members"<<endl;

cout<<"10.To Display the list"<<endl;

cout<<"Enter your choice=";

cin>>ch;

switch(ch)

{

case1:ob.create\_head();

break;

case2:ob.insert\_front();

break;

case3:ob.insert\_middle();

break;

case4:ob.insert\_end();

break;

case5:ob.del\_front();

break;

case6:ob.del\_middle();

break;

case7:ob.del\_end();

break;

case8:ob.total\_count();

break;

case9:ob.reverse();

break;

case10:ob.display();

break;

}

}

}

/\*

OUTPUT:

Menu:

1.Toenterprnandnameofpresident

2.Toenterprnandnameofmemberatfront

3.Toenterprnandnameofmemberatmiddle

4.Toenterprnandnameofmemberatend

5.Todeleteprnandnameofmemberfromfront

6.Todeleteprnandnameofmemberfrommiddle

7.Todeleteprnandnameofmemberfromend

8.Tofindtotalcountofmember

9.ToReversethelistofmembers

10.ToDisplaythelist

Enteryourchoice=1

Enterrollno=20

Entername=b

Menu:

1.Toenterprnandnameofpresident

2.Toenterprnandnameofmemberatfront

3.Toenterprnandnameofmemberatmiddle

4.Toenterprnandnameofmemberatend

5.Todeleteprnandnameofmemberfromfront

6.Todeleteprnandnameofmemberfrommiddle

7.Todeleteprnandnameofmemberfromend

8.Tofindtotalcountofmember

9.ToReversethelistofmembers

10.ToDisplaythelist

Enteryourchoice=2

Enterprn=10

Entername=a

Menu:

1.Toenterprnandnameofpresident

2.Toenterprnandnameofmemberatfront

3.Toenterprnandnameofmemberatmiddle

4.Toenterprnandnameofmemberatend

5.Todeleteprnandnameofmemberfromfront

6.Todeleteprnandnameofmemberfrommiddle

7.Todeleteprnandnameofmemberfromend

8.Tofindtotalcountofmember

9.ToReversethelistofmembers

10.ToDisplaythelist

Enteryourchoice=4

Enterprn=40

Entername=d

Menu:

1.Toenterprnandnameofpresident

2.Toenterprnandnameofmemberatfront

3.Toenterprnandnameofmemberatmiddle

4.Toenterprnandnameofmemberatend

5.Todeleteprnandnameofmemberfromfront

6.Todeleteprnandnameofmemberfrommiddle

7.Todeleteprnandnameofmemberfromend

8.Tofindtotalcountofmember

9.ToReversethelistofmembers

10.ToDisplaythelist

Enteryourchoice=3

Enterprnafterwhichmemberyouwanttoinsert=20

Enterprn=30

Entername=c

Menu:

1.Toenterprnandnameofpresident

2.Toenterprnandnameofmemberatfront

3.Toenterprnandnameofmemberatmiddle

4.Toenterprnandnameofmemberatend

5.Todeleteprnandnameofmemberfromfront

6.Todeleteprnandnameofmemberfrommiddle

7.Todeleteprnandnameofmemberfromend

8.Tofindtotalcountofmember

9.ToReversethelistofmembers

10.ToDisplaythelist

Enteryourchoice=10

Listisasfollows:=

10a

20b

30c

40d

Menu:

1.Toenterprnandnameofpresident

2.Toenterprnandnameofmemberatfront

3.Toenterprnandnameofmemberatmiddle

4.Toenterprnandnameofmemberatend

5.Todeleteprnandnameofmemberfromfront

6.Todeleteprnandnameofmemberfrommiddle

7.Todeleteprnandnameofmemberfromend

8.Tofindtotalcountofmember

9.ToReversethelistofmembers

10.ToDisplaythelist

Enteryourchoice=5

Menu:

1.Toenterprnandnameofpresident

2.Toenterprnandnameofmemberatfront

3.Toenterprnandnameofmemberatmiddle

4.Toenterprnandnameofmemberatend

5.Todeleteprnandnameofmemberfromfront

6.Todeleteprnandnameofmemberfrommiddle

7.Todeleteprnandnameofmemberfromend

8.Tofindtotalcountofmember

9.ToReversethelistofmembers

10.ToDisplaythelist

Enteryourchoice=10

Listisasfollows:=

20b

30c

40d

Menu:

1.Toenterprnandnameofpresident

2.Toenterprnandnameofmemberatfront

3.Toenterprnandnameofmemberatmiddle

4.Toenterprnandnameofmemberatend

5.Todeleteprnandnameofmemberfromfront

6.Todeleteprnandnameofmemberfrommiddle

7.Todeleteprnandnameofmemberfromend

8.Tofindtotalcountofmember

9.ToReversethelistofmembers

10.ToDisplaythelist

Enteryourchoice=6

Enterprntodeletemember=30

Menu:

1.Toenterprnandnameofpresident

2.Toenterprnandnameofmemberatfront

3.Toenterprnandnameofmemberatmiddle

4.Toenterprnandnameofmemberatend

5.Todeleteprnandnameofmemberfromfront

6.Todeleteprnandnameofmemberfrommiddle

7.Todeleteprnandnameofmemberfromend

8.Tofindtotalcountofmember

9.ToReversethelistofmembers

10.ToDisplaythelist

Enteryourchoice=10

Listisasfollows:=

20b

40d

Menu:

1.Toenterprnandnameofpresident

2.Toenterprnandnameofmemberatfront

3.Toenterprnandnameofmemberatmiddle

4.Toenterprnandnameofmemberatend

5.Todeleteprnandnameofmemberfromfront

6.Todeleteprnandnameofmemberfrommiddle

7.Todeleteprnandnameofmemberfromend

8.Tofindtotalcountofmember

9.ToReversethelistofmembers

10.ToDisplaythelist

Enteryourchoice=4

Enterprn=50

Entername=e

Menu:

1.Toenterprnandnameofpresident

2.Toenterprnandnameofmemberatfront

3.Toenterprnandnameofmemberatmiddle

4.Toenterprnandnameofmemberatend

5.Todeleteprnandnameofmemberfromfront

6.Todeleteprnandnameofmemberfrommiddle

7.Todeleteprnandnameofmemberfromend

8.Tofindtotalcountofmember

9.ToReversethelistofmembers

10.ToDisplaythelist

Enteryourchoice=2

Enterprn=10

Entername=a

Menu:

1.Toenterprnandnameofpresident

2.Toenterprnandnameofmemberatfront

3.Toenterprnandnameofmemberatmiddle

4.Toenterprnandnameofmemberatend

5.Todeleteprnandnameofmemberfromfront

6.Todeleteprnandnameofmemberfrommiddle

7.Todeleteprnandnameofmemberfromend

8.Tofindtotalcountofmember

9.ToReversethelistofmembers

10.ToDisplaythelist

Enteryourchoice=10

Listisasfollows:=

10a

20b

40d

50e

Menu:

1.Toenterprnandnameofpresident

2.Toenterprnandnameofmemberatfront

3.Toenterprnandnameofmemberatmiddle

4.Toenterprnandnameofmemberatend

5.Todeleteprnandnameofmemberfromfront

6.Todeleteprnandnameofmemberfrommiddle

7.Todeleteprnandnameofmemberfromend

8.Tofindtotalcountofmember

9.ToReversethelistofmembers

10.ToDisplaythelist

Enteryourchoice=7

Menu:

1.Toenterprnandnameofpresident

2.Toenterprnandnameofmemberatfront

3.Toenterprnandnameofmemberatmiddle

4.Toenterprnandnameofmemberatend

5.Todeleteprnandnameofmemberfromfront

6.Todeleteprnandnameofmemberfrommiddle

7.Todeleteprnandnameofmemberfromend

8.Tofindtotalcountofmember

9.ToReversethelistofmembers

10.ToDisplaythelist

Enteryourchoice=10

Listisasfollows:=

10a

20b

40d

Menu:

1.Toenterprnandnameofpresident

2.Toenterprnandnameofmemberatfront

3.Toenterprnandnameofmemberatmiddle

4.Toenterprnandnameofmemberatend

5.Todeleteprnandnameofmemberfromfront

6.Todeleteprnandnameofmemberfrommiddle

7.Todeleteprnandnameofmemberfromend

8.Tofindtotalcountofmember

9.ToReversethelistofmembers

10.ToDisplaythelist

Enteryourchoice=8

Totalcount=3

Menu:

1.Toenterprnandnameofpresident

2.Toenterprnandnameofmemberatfront

3.Toenterprnandnameofmemberatmiddle

4.Toenterprnandnameofmemberatend

5.Todeleteprnandnameofmemberfromfront

6.Todeleteprnandnameofmemberfrommiddle

7.Todeleteprnandnameofmemberfromend

8.Tofindtotalcountofmember

9.ToReversethelistofmembers

10.ToDisplaythelist

Enteryourchoice=9

Listinreverseorder:

402010

Menu:

1.Toenterprnandnameofpresident

2.Toenterprnandnameofmemberatfront

3.Toenterprnandnameofmemberatmiddle

4.Toenterprnandnameofmemberatend

5.Todeleteprnandnameofmemberfromfront

6.Todeleteprnandnameofmemberfrommiddle

7.Todeleteprnandnameofmemberfromend

8.Tofindtotalcountofmember

9.ToReversethelistofmembers

10.ToDisplaythelist

Enteryourchoice=\*/